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(71) Applicant and

(72) Inventor: **BRON, Denis** [CH/CH]; Mühlefeld 12,  
CH-5016 Obererlinsbach (CH).

(74) Agent: **E. BLUM & CO.**; Vorderberg 11, CH-8044 Zürich  
(CH).

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(54) Title: DELIVERY SYSTEM FOR PHARMACEUTICAL AGENTS

(57) Abstract: The present invention relates to a delivery system for pharmaceutical agents. Said delivery system comprises liposomes which comprise in their internal compartment a pharmaceutical agent to be delivered and which have linked to their external surface the cell adhesion molecule NCAM or a fragment thereof. In a preferred embodiment said pharmaceutical agent is a DNA, preferably a cDNA which is operably linked to a gene expression construct.

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# INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER  
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## B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, MEDLINE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 618 916 A (RATLIFF TIMOTHY J ET AL) 8 April 1997 (1997-04-08) column 2, line 20-40; claim 1 column 4, line 10-14 column 13, line 10-13 column 4, line 29-36 ---	1,4
X	EP 1 214 935 A (SEQUUS PHARM INC) 19 June 2002 (2002-06-19) page 3, paragraphs 7,12; claims 1-15; table 1 page 9, paragraph 67 ---	1,2,4
X	US 5 366 958 A (LENK ROBERT P ET AL) 22 November 1994 (1994-11-22) column 3, line 54-67 column 4, line 37-40 column 11, line 44-60 ---	1
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☒ Further documents are listed in the continuation of box C.

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European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

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# INTERNATIONAL SEARCH REPORT

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>DE 100 56 136 A (NEMOD NEW MODALITIES) 16 May 2002 (2002-05-16) the whole document -----</p>	1,2,4

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5618916	A	08-04-1997	NONE	
EP 1214935	A	19-06-2002	EP 1214935 A2	19-06-2002
			AT 232086 T	15-02-2003
			AU 715063 B2	13-01-2000
			AU 4987897 A	11-05-1998
			BR 9712230 A	25-01-2000
			DE 69718924 D1	13-03-2003
			DE 69718924 T2	04-12-2003
			DK 932391 T3	26-05-2003
			EP 0932391 A2	04-08-1999
			ES 2191833 T3	16-09-2003
			JP 2001504093 T	27-03-2001
			PT 932391 T	30-06-2003
			TW 520297 B	11-02-2003
			US 2002172711 A1	21-11-2002
			WO 9816202 A2	23-04-1998
			US 2003215490 A1	20-11-2003
			US 6056973 A	02-05-2000
			US 6224903 B1	01-05-2001
			US 6316024 B1	13-11-2001
			US 2001038851 A1	08-11-2001
			US 5891468 A	06-04-1999
US 5366958	A	22-11-1994	MX 9203290 A1	01-08-1992
DE 10056136	A	16-05-2002	DE 10056136 A1	16-05-2002
			AU 2790702 A	21-05-2002
			CA 2428141 A1	16-05-2002
			WO 0238168 A2	16-05-2002